

# AWTA TEXTILE TESTING

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trading as AWTA Textile Testing



## TEST REPORT

TEST NUMBER : 7-474612-CV  
DATE : 16/03/98

SAMPLE DESCRIPTION CLIENTS REF: REHAU UPVC WINDOW PROFILES  
WINDOW FRAME UNIT - NO GLAZING  
COLOUR: WHITE  
APPROX THICKNESS: 50mm

THESE RESULTS MUST BE CONSIDERED IN CONJUNCTION  
WITH THE COMMENTS ON THE FOLLOWING PAGE(S)

**MATERIAL SPECIFICATION PROVIDED BY CLIENT:**

NOM COMPOSITION: UNPLASTICISED MODIFIED POLYVINYL CHLORIDES, CLASSED AS HIGH  
IMPACT RESISTANT TO DIN 7748

AS 1530.3.1989 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME  
AMDT NO 1 APR 92 PROPAGATION, HEAT RELEASE AND SMOKE RELEASE.

RESULTS:	MEAN	STANDARD ERROR
IGNITION TIME	NIL	mls
FLAME PROPAGATION TIME	NIL	s
HEAT RELEASE INTEGRAL	NIL	kJ/m2
SMOKE RELEASE, LOG D	-0.7997	0.0717
OPTICAL DENSITY, D	0.1705	/m

NUMBER OF SPECIMENS IGNITED: 0  
NUMBER OF SPECIMENS TESTED: 6

REGULATORY INDICES:	IGNITABILITY INDEX	SPREAD OF FLAME INDEX	HEAT EVOLVED INDEX	SMOKE DEVELOPED INDEX	RANGE
	0	0	0	5	0-20
					0-10
					0-10
					0-10

**COMMENTS:**

THE RESULTS OF THIS FIRE TEST MAY BE USED TO DIRECTLY ASSESS  
FIRE HAZARD, BUT IT SHOULD BE RECOGNIZED THAT A SINGLE TEST  
METHOD WILL NOT PROVIDE A FULL ASSESSMENT OF FIRE HAZARD UNDER  
ALL FIRE CONDITIONS.

IGNITION IS INITIATED BY A PILOT FLAME THAT IS HELD NEAR,  
BUT DOES NOT TOUCH THE SPECIMEN. A MATERIAL THAT DOES NOT  
IGNITE DURING THE STANDARD TEST MAY IGNITE IF CONTACTED  
WITH A PILOT FLAME DURING THE TEST.

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**CHARGES**

TESTING	\$615.00
TOTAL	\$615.00



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- Chemical Testing of Textiles & Related Products : Registration No. 865  
- Mechanical Testing of Textiles & Related Products : Registration No. 886  
- Heat & Temperature Measurement : Registration No. 1359

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*D. J. Ward*  
AUTHORISED SIGNATORY

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0204/007

## Recyclability

Like all thermoplastic polymers, RAU-PVC 1406 and RAU-PVC 1476 have basic properties which make them ideal materials for recycling and making new products from. Profile offcuts and waste can be collected from customers, sorted according to colour and type, and then in most cases re-processed to produce new profiles. Even old profiles that have given many years of service will retain most of their original properties, and depending on how clean it is the material can be recycled and used to make other products requiring low-, medium- or high-grade PVC.

**Table 1:**  
**Thermal properties of RAU-PVC 1406/1476**

Vicat-softening point (method B)	DIN 53460	°C	82
Thermal conductivity (20°C)	DIN 52612	W/mK	approx. 0.21
Cold breaking temperature according to Mehnert-Schulz		°C	<-40
Coefficient of linear thermal expansion		K <sup>-1</sup>	0.8 · 10 <sup>-4</sup>
Specific heat		kJ/kg K	approx. 1.05

**Table 2:**  
**Mechanical properties of RAU-PVC 1406/1476**  
(If not stated otherwise, at 23°C)

Density	DIN 53479	g/cm <sup>3</sup>	1.44 ± 0.02
Tensile strength	DIN 53455	N/mm <sup>2</sup>	> 45
Elongation at break	DIN 53455	%	> 100
Tensile stress	DIN 53455	N/mm <sup>2</sup>	> 41
Flexural yield strength	DIN 53452	N/mm <sup>2</sup>	> 85
Impact strength 0°C	DIN 53453	kJ/m <sup>2</sup>	no break
-20°C		kJ/m <sup>2</sup>	no break
-40°C		kJ/m <sup>2</sup>	no break
Impact strength, notched +23°C	DIN 53453	kJ/m <sup>2</sup>	> 25
0°C		kJ/m <sup>2</sup>	> 7
Ball indentation hardness 30 sec.	DIN 53456	N/mm <sup>2</sup>	approx. 95
Modulus of elasticity	DIN 53457	N/mm <sup>2</sup>	> 2500
Shore hardness D	DIN 53505		81 ± 3

**Table 3:**  
**Electrical properties of RAU-PVC 1406/1476**

Volume resistivity	DIN 53482	Ohm · cm	> 10 <sup>16</sup>
Surface resistance	DIN 53482	Ohm	> 4 · 10 <sup>11</sup>
Dielectric constant	DIN 53483		
50 cycles			3.4
800 cycles			3.4
up to 1 million cycles			2.9
Dissipation factor	DIN 53483		
50 cycles			0.016
800 to 1 million cycles			0.024
Dielectric strength	DIN 53481	kV/mm	> 30